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Certification and Training for Network Improvement Project (CATNIP)

A BEST PRACTICES CASE STUDY: INDONESIA

SUMMARY

Some 300 state-owned water service providers (PDAMs) in Indonesia are mandated to supply drinking water, but the real provision of potable water remains difficult due to various institutional, technical and financial factors. Currently, clean water is available to about 35% of urban dwellers, and nearly all of them boil the water before drinking. Seeking to facilitate improved delivery of clean and potable water, the Indonesian Association of Water Enterprises (PERPAMSI) launched a pilot initiative known as the Certification and Training for Network Improvement Project (CATNIP). The CATNIP project aimed to make available clean drinking water to household consumers through their taps, and find ways for PDAMs to sustain the delivery of water. To accomplish this, small drinking water zones were set-up within PDAM service areas in order to develop models that would demonstrate the feasibility of drinking water provision.

In the process, the CATNIP project implemented three main activities: (1) provision of technical assistance and capacity building, (2) formulation of tools and procedures to institutionalize the pilot activities, and (3) establishment of a Certification Body to help ensure sustainability of the project. By design, the technical assistance, training and tools development components were complementary; they encompassed various technical, social, financial and institutional aspects, all of which were essential to establish and maintain the

INSIDE

drinking water zones. Working with three small zones in three different PDAMs (PDAM Kota Medan, PDAM Kota Bogor and PDAM Kota Malang) the pilot initiative incorporated intensive facilitation to secure commitment from participating PDAMs, and to introduce and integrate quality management concepts to PDAM personnel. To encourage sustainability, the project helped raise customer awareness of potable water availability in their homes, and it involved municipal policymakers during public outreach events. Finally, the project ensured that long-term institutions were in place to measure any successes and gather lessons learned by initiating the development of a multi-stakeholder certification body. This body was responsible for motivating replication by formally recognizing PDAMs that were successful in establishing drinking water quality zones.

The 11-month CATNIP initiative successfully facilitated the establishment of three small drinking water zones serving about 2,300 customers, and incorporated concepts of quality management to help PDAMs set up the zones. As well, PDAM staff benefited from integrated classroom and on-the-job training, exchanges and field visits, and direct facilitation on various topics ranging from detailed water treatment processes and proper laboratory procedures to enhanced communication strategies. As a result, the project enhanced the understanding and preparation of PDAM staff to effectively implement the production and distribution of potable water. While the certification body continues to be refined to encourage other PDAMs to participate, customers are directly reaping the benefits through better services delivery.

SITUATION BEFORE THE INITIATIVE BEGAN

In Indonesia, approximately 300 state-owned drinking water service providers (PDAMs) serve about 85 million people, or about 35% or urban dwellers. However, with a few exceptions, they provide only clean water that has to be boiled before it is used for cooking or drinking. Supply driven development policies of the past three decades focused primarily on the construction of numerous water treatment plants, with little regard for water pressure, water quality or piping system maintenance. At the same time, PDAMs continue to face political interference, financial burdens, and institutional troubles, preventing them from performing efficiently and effectively delivering adequate water services, and preventing most of them from charging full cost recovery tariffs. Consequently, the provision of drinking water through household taps remains illusive.

ESTABLISHMENT OF PRIORITIES

A 1998 survey conducted by the Ministry of Health revealed that only 60% of routinely sampled tap water passed the Indonesian bacteriological standards. Other findings included poor construction materials causing water leakages, and intermittent supply of water for less than 24 hours a day due to inadequate system pressure resulting in the seepage of bacteria into distribution systems and the reduction of residual chlorine. In systems where residual chlorine meets minimum standards, customers often complain about the chlorine taste.

In 2000, GTZ and the Ministry of Health collaborated to establish a drinking water quality zone in one small PDAM located in Northern Bali. The two institutions created and implemented strategies to sustain the exceptional water quality and help address user concerns of taste and odor. Building on this success, the Indonesian Association of Water Enterprises (PERPAMSI) partnered with USAID/US-AEP to

further develop a pilot activity to replicate the establishment of drinking water quality zones (also referred to as ZAMP - Indonesian for Prime Drinking Water Zone) within existing PDAM service areas. Known as the Certification and Training for Network Improvement Project (CATNIP), the pilot activity focused mainly on improving the quality of water delivered by PDAMs, by using various approaches to help institute quality management.

FORMULATION OF OBJECTIVES AND STRATEGIES

The CATNIP project aimed to ensure that drinking quality water would be readily available for household consumers, and from its inception sought to find ways for PDAMs to sustain the delivery of potable water. In order to reach its objective, the pilot program facilitated the implementation of three main strategies: (1) provision of technical assistance and capacity building, (2) formulation of tools and procedures to institutionalize the pilot activities, and (3) establishment of a Certification Body to help ensure sustainability of the project.

By design, the technical assistance, training, and tools development components were complementary and encompassed various technical, social, financial and institutional aspects, all of which were essential to establish and maintain ZAMPs. The CATNIP project also incorporated intensive facilitation to ensure commitment was secured from participating PDAMs, and that certain models were in place to measure any successes and gather lessons. The Certification Body initiation was included in the project to recognize those PDAMs that were successful in establishing the ZAMPs, and thus to motivate replication in other locations.

Three PDAM service areas in Kota Medan, Kota Bogor and Kota Malang were short-listed for the pilot after consultation with PERPAMSI and other sector practitioners. The pre-screening selection criteria considered a number of factors: (1) the operating capacity of the PDAM's and the number of consumers they reached; (2) their existing water distribution network; (3) their management systems; and (4) their orientation toward water quality improvement. Further discussions resulted in the selection of three small, distinct zones within these PDAM service areas: (1) Malibu in PDAM Kota Medan; (2) Pakuan Tajur in PDAM Kota Bogor; and (3) Pondok Blimbing Indah in PDAM Kota Malang.

MOBILIZATION OF RESOURCES

Preliminary drafting of the CATNIP design began in late 2002, following discussions by PERPAMSI, GTZ, the Ministry of Health, and USAID/US-AEP on the values of providing adequate and potable water through PDAMs. Further brainstorming to improve the design engaging other stakeholders, including: the Forum for Communication on Water Quality Management (FORKAMI), the Indonesian Society of Sanitary and Environmental Engineers (IATPI), and the Tirta Dharma Training and Education Foundation (YPTD).

At the time, USAID/US-AEP was partnering with PERPAMSI to implement several activities on building the capacities of PDAM operators and managers. Since PERPAMSI presented the natural entry point for further initiatives with PDAMs, particularly the CATNIP project, it was then agreed that USAID/US-AEP would provide support. From June 2003 until October 2004, USAID/US-AEP allocated a total of

$110,000 in grants for PERPAMSI to implement the project. The funding was utilized to conduct stakeholder consultations and field visits, and prepare and implement demand-responsive training on subjects crucial to establish a ZAMP. In addition, the assistance covered desk studies on installing new connections, reducing water losses, improving customer relations, etc. Finally, the funding supported the creation of tools to disseminate the ZAMP establishment process and activities, and the development of an information platform to store and manage the tools. In turn, PERPAMSI contributed in-kind inputs to coordinate various tasks and provided secretariat support.

PROCESS

The CATNIP project was officially launched in July 2003 with a road show to the three PDAMs by the CATNIP team, which consisted of PERPAMSI staff and two volunteer technical experts enlisted through the American Water Works Association (AWWA) by USAID/US-AEP. The initial visit was multi-purpose, intended to: (1) inform the PDAMs of the project and of the quality management model; (2) gauge interest and commitment from PDAM staff; and (3) help identify any operational and institutional weaknesses that could be addressed by the project. Initially, securing commitment from the PDAMs was a primary goal, and thus the AWWA experts provided key entry points by sharing their experiences about establishing potable water systems in the United States.

All PDAMs were aware of the quality management approach and noted their commitment to participate, but only one strived to attain the ISO standards for quality assurance and control. Feedback collected from the visits helped the team and the experts highlight the need to develop standard operating procedures for water production, distribution and quality monitoring; the strengthening of customer relations tools and strategies; and improving water quality monitoring.

In cooperation with the PDAMs, the team conducted a survey in August 2003 to profile the PDAM customer base and identify key information about customer service, water use, and willingness to participate in and pay more for improved services delivery. The survey was performed in six potential ZAMP areas. Survey results showed that customers in general were receptive to new methods and were willing to pay more if the delivery of water services was enhanced. Most customers conveyed that PDAMs did not perform enough outreach to inform customers of their performance and operating conditions. In addition to the survey, the team facilitated the creation of a localized CATNIP working group, ensuring that the group was well integrated into the existing PDAM management structure to avoid overlapping of responsibilities and to maintain a holistic approach.

Presented to the stakeholders in September 2003, the survey results were then used to select three small areas by consensus as the sites for the CATNIP implementation; each area was located within the boundaries of three short-listed PDAMs. At this presentation, the CATNIP team also detailed key prerequisites for each PDAM to attain a ZAMP status, noting especially that improvements were needed in the overall management models, human capital investments, and technical operations and maintenance of infrastructure. In particular, the team emphasized that sufficient outreach of the project internally within the PDAM staffs as well as externally to PDAM customers was essential.

Although initial commitment was expressed by the participating PDAMs, five months into the project *real action to follow through on those commitments* remained a challenge. For the CATNIP team, conveying

the understanding of the ZAMP, reaching out to the PDAMs and customers, and once again emphasizing the importance of quality management concepts were instrumental to realizing follow-through on these commitments. To help motivate concrete actions, a study tour of key PDAM personnel was organized to two locations where the ZAMP was already established and adequately sustained. Seeing real evidence of a ZAMP effectively encouraged the PDAMs to formulate work plans and follow through on associated action items. By the end of 2003, the PDAMs managed to allocate enough funding within their fiscal budgets to repair their distribution systems within the selected areas, and ultimately assigned the required technical and human resources. These were indicative of their commitments.

Nevertheless, continuous support remained important. In discussions with PDAM directors, managers and operators, the team reintroduced the quality management concept with respect to treated water production, distribution, monitoring, and public/customer outreach. Service targets were formulated to link potable water availability with quality. Manuals and guidelines to demonstrate how a ZAMP was established were developed. The team also supported the PDAM staff with the creation of standard operating procedures (SOPs) to ensure adequate production, distribution, and monitoring of drinking water in their local contexts. In at least five visits to each area, the team continued to inform PDAM staff and customers about the ZAMP, and delivered training on strategies and ways to prepare communication and public outreach tools, to carry out a customer satisfaction surveys, and to analyze tariffs. Lastly, the team continued to monitor progress on the repairs and installation of pipes, water meters, and other equipment to make sure that all actions needed to establish a ZAMP were implemented.

The certification process to validate ZAMPs and measure their achievements began in parallel with the ZAMP area selection and establishment efforts. The idea was to initiate discussions to quantify improvements being made by the PDAM and to certify PDAMs that have successfully instituted ZAMPs. From December 2003 until August 2004, stakeholders including government, NGOs, consumer groups, industry associations, and university representatives participated in three consultations to assist with creating a framework for a certification system that corresponded to the ISO standards, and dealt directly and only with the delivery of potable water instituted by PDAMs. The meetings resulted in the creation of a multi-stakeholder working group tasked to help define the scope of certification, establish a Certification Body, determine the roles and responsibilities of the Body personnel, and finally to establish standards for certification. The group proposed to set up the Body jointly by PERPAMSI and the Ministry of Health, but the proposal remained pending.

RESULTS ACHIEVED

By the end of the 11-month program in September 2004, three drinking water zones were established. Now about 2,300 customers are able to drink water from their household taps. The program therefore had effectively introduced the concept of quality management and successfully supported the PDAMs to establish ZAMPs. More importantly, technical assistance provided through the program enabled the participating PDAM staff to better understand the conditions required for the production and distribution of potable water. By design, the assistance integrated classroom and on-the-job training, exchanges and field visits, and direct facilitation for PDAM personnel on various factors essential in maintaining potable water quality, from detailed water treatment processes and proper laboratory procedures to enhanced communication strategies.

In the CATNIP project, preparation of SOPs and guidelines catered to the different needs of PDAM managers and operators, for example, addressing improved public relations, and highlighted the key processes and strategies for establishing a ZAMP for replication by other interested PDAMs. In addition, the program helped develop public outreach tools for PDAM personnel to conduct customer satisfaction surveys and disseminate the CATNIP approaches for possible replication. Aspects of full cost recovery, tariff analysis and staff professionalism were integrated into all discussions and training events. As a result, PDAM staffs and managers are better equipped to provide exemplary services to their customers.

Finally, customers became more aware of the improvements in their water quality and in the services provided by their respective PDAMs. Satisfaction surveys of customers residing in the pilot areas were conducted three months after project implementation. The surveys revealed that 79% of the customers noted the improved water quality and understood that the water supply was potable, although most continued to boil water before drinking out of habit. For PDAM Kota Bogor, 52% of the survey respondents detected better public relations practices by PDAM staffs in responding to complaints and problems. A marked improvement in water services delivery, including greater emphasis on customer orientation was achieved through the project.

SUSTAINABILITY

Having drinking quality water delivered to the household tap is a rare feat, although many PDAMs are already beginning to improve their services. In order to ensure sustainability, the CATNIP project addressed two key measures:

(1) **Certification Body**: The formation of a Certification Body to help quantify and certify the improvements under the auspices of PERPAMSI and the Ministry of Health. Initial discussions to establish the Body were initiated and they involved broad stakeholders from the national and local governments, PDAM staffs, consumer protection organizations, and water sector groups and practitioners. At the end of the project, a multi-stakeholder working group mandated to further develop the Body was successfully established. Subsequent efforts by the group yielded the draft internal management procedures and formulation of scope, performance standards, and checklists for certification. In the meantime, full accreditation of the Body by the National Competency Committee remains in discussion. It is intended that formalization of the Certification Body to recognize those PDAMs that have successfully established the ZAMPs will generate enough demand from other water service providers for certification and therefore encourage their interest for long-term improvements in delivering water.

(2) **Participation and Accountability**: Another effort performed during the project was to involve local policymakers, consumers and the general public during the ZAMP establishment process as a means to promote accountability. For instance, the CATNIP team coordinated with PDAM staffs to ensure that the mayors and legislators in Bogor and Malang took part in the public inauguration of the ZAMPs in their respective municipalities. In addition, the CATNIP team also worked with the PDAM personnel to create communication and public outreach tools to understand better the perception of the different stakeholders and clarify the ZAMP concept. Marketing techniques on the ZAMP, water

conservation and quality aspects were employed and produced through different media and methods, such as brochures, home visits, information booklets, satisfaction surveys, and TV.

In collaboration with PDAM staffs, the CATNIP team developed and implemented customer satisfaction surveys to identify customer behavior, consumption patterns, perception, and the readiness and willingness to accept improved PDAM services. By involving the public and local governments during implementation, greater accountability of PDAM performance can be readily monitored, and thus sustainability of the ZAMP can be better assured.

LESSONS LEARNED

Key lessons learned during that helped to ensure the program was implemented effectively are as follows:

Building commitment of PDAM personnel and other stakeholders was an essential prerequisite. To get a proper buy-in on the feasibility of establishing a ZAMP, the CATNIP team remained resilient and interacted continuously with the various PDAM directors, managers and staffs. At first, nearly all PDAM managers noted that forming a ZAMP was impossible due to lack of readiness among the staff, lack of willingness from the customers to accept change and their perceived skepticism, and possible tariff increases associated with investments for improved water services. To overcome these barriers and secure commitment, the CATNIP team employed different tactics. To demonstrate the real possibility of establishing a ZAMP, the team coordinated study tours to other PDAMs that have successfully achieved the ZAMP status and invited international resource persons to share their knowledge and experiences. In addition, the team conducted awareness campaigns and surveys, both formally and informally, with PDAM personnel and the customers in the targeted zones. Results from these efforts helped to unify the perception of the various PDAM staff and to understand the PDAM customers better. By providing evidence and building confidence from the customers and PDAM staffs, the team was able to convince and secure commitment from the PDAM directors and managers.

Involving various stakeholders during the program's design and implementation process was an important element to gain support. In the inception stage, PERPAMSI invited government and select donor agencies to participate in developing the CATNIP's scope and then involved NGOs, sector practitioners, consumer groups and academia to refine the project design. The participation of these stakeholders in the planning process subsequently proved fruitful during the Certification Body formation, in which support to formalize the Body was readily secured. In the start-up process, the same participatory principles were used to have PDAMs interested in the program select the most applicable service areas based on discussions and on the results of a preliminary customer profile survey.

During implementation, the CATNIP team engaged PDAM staffs to familiarize with the program and facilitated the preparation of their own guidelines and SOPs. In other words, these tools were made based on real application and field conditions, and more importantly, by the involved PDAM staffs themselves instead of external consultants. Finally, public outreach about the program targeted not only to PDAM staffs but also customers living in the program areas. This multi-stakeholder participation model proved crucial to build ownership of the project from the participating PDAMs, to and to gain customer confidence and openness of new initiatives aimed at improving services delivery.

Preserving an integrated approach was essential to improve water quality management and provision. By design, the project addressed technical, social, financial and institutional aspects that were fundamental to establish a ZAMP. First, the program incorporated technical training sessions on the topics of, among others, basic water treatment engineering, methods to reduce physical leakages and clean existing pipes, installation of water quality monitoring units, and establishment of standard laboratory practices and QA/QC procedures. Second, the program emphasized the need for greater customer orientation and communication, and helped develop tools to implement such activities. Third, aspects of cost recovery and tariff analysis were included in several discussions and meetings with PDAM personnel as an exclusive topic for financial stability. Fourth, improved quality management approaches modeled after standard industry practices such as ISO 9000 and Total Quality Management were introduced to strengthen the PDAM institution. As such, the project intentionally integrated with existing PDAM initiatives and institutional functions, such as involving current PDAM staffs to become the person-in-charge for facilitating the development of SOPs and guidelines. Taken as a whole, the integrated approach helped build the capacity of PDAMs to understand the quality management model and apply it to sustain the provision of drinking quality water to their customers.

TRANSFERABILITY

In collaboration with PERPAMSI, the CATNIP project supported the development of an information platform to collect lessons and experiences gained from the process of establishing the three drinking water quality areas, and from other activities performed in cooperation with various external supporting agencies. PERPAMSI also created a website to serve as the information help desk and platform for PDAM service performance improvements as well as to present to the general public and donor agencies the working mechanisms of PERPAMSI. The plan was to incorporate the lessons from the program in the website, once a monitoring and evaluation activity had taken place to synthesize best practices. PDAMs interested in acquiring information on the CATNIP project and its implementation process can refer to the website or liaise with PERPAMSI. Although the website had evolved to date to include, among others, the PDAM benchmarking information and national/international news and events on water and sanitation, posting of the results from the program remained pending.

A Water Advisory and Services Center is currently being formed with the assistance of GTZ and a Dutch Trust Fund to reside in PERPAMSI. The Center would more or less function as the clearinghouse for all associated activities conducted by PERPAMSI and YPTD in the past and present. As an alternative to the website, it is hoped that results from the CATNIP project would also be included in the information center and thus provide a starting point for other PDAMs willing to replicate and apply the program's processes. To complement the documentation of the program's implementation, the three successful PDAMs have agreed to participate as models and to share their experiences. As mentors, they will provide the expertise and know-how to initiate the ZAMP establishment process. While these information platforms are useful to help disseminate the results and best approaches of the CATNIP project, PERPAMSI, with support from other agencies, wil need to reinitiate discussions with other PDAMs in order to generate demand for replication.

PROJECT PARTNERS

United States-Asia Environmental Partnership (US-AEP)
US Agency for International Development
American Embassy
Jl. Medan Merdeka Selatan 3
Jakarta 10110 - Indonesia
Tel: +62-21 3435-9469
Contact: Suzanne Billharz, US-AEP Country Program Manager
sbillharz@usaid.gov

Indonesian Association of Water Enterprises (PERPAMSI)
Jl. Penjernihan II/No. 27B
Jakarta 10210 - Indonesia
Tel: +62-21 574-4647/572-0075
Contact: Godman Ambarita, Executive Director; Sukmayeni, Program Manager
perpamsi@dnet.net.id

American Water Works Association
6666 W. Quincy Ave.
Denver, CO 80235 - USA
Tel:+1 303 794-7711 or 800.926.7337
Contact: Peter Nathanson (AWWA volunteer)
Peter.nathanson@uas.alaska.edu

PDAM Kota Bogor – Tirta Pakuan
Jl. Siliwangi No. 121
Bogor 16142 - Indonesia
Tel: +62 251 321575 - 321573
Contact: Indra M. Roesli, Technical Director

PDAM Kota Malang
Jl. Terusan Danau Sentani 100
Malang
Tel: +62 341 715103
Contact: Gandi Yogatama, Technical Director
pdamkm@telkom.net

PDAM Kota Medan – Tirta Nadi
Jl. S.M. Raja No. 1
Medan
Tel: +62 621 7869476
Contact: Sugeng Hadi Sungkono, Technical Director
tirtamdm@idola.net.id